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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/099,885	03/14/2002	Kenji Fukasawa	MIPFP010	5405
25920	7590	06/15/2006	EXAMINER	
MARTINE PENILLA & GENCARELLA, LLP 710 LAKEWAY DRIVE SUITE 200 SUNNYVALE, CA 94085			BAKER, CHARLOTTE M	
			ART UNIT	PAPER NUMBER
			2625	

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/099,885	Applicant(s) FUKASAWA ET AL.	
	Examiner Charlotte M. Baker	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 June 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>03/24/03; 11/12/04</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawings are objected to because Fig. 4, item 54 contains foreign characters. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: p. 12, par. 38, replace "To PIO 54 are connected a personal computer" with --To PIO 54 are connected to a

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personal computer--; p. 17, par. 53, replace "sine the tone number is 1024x" with --since the tone number is 1024x--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-6, 8-12, 16-19, 21-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Roberts (6,758,574).

Regarding claim 1: Roberts discloses color converting means (Fig. 4, computer system 400) for converting by means of a matrix operation (matrix multiplication, col. 4, ln. 6-12) image data of a first color system (YCbCr space, Fig. 2C, col. 4, ln. 6-12) in a first color coordinate system (Fig. 1, gamma adjusted RGB), said color system capable of representing a first color number (Fig. 3B and 3C, coordinate values), to image data of a second color system (sRGB, Fig. 2C, col. 3, ln. 65-67) in a second color coordinate system (standard RGB), said color system capable of representing a second color number more numerous than the first color number (it is an inherent feature of the sRGB color space that sRGB defines the red, green and blue primaries as colors where one of the three channels is at the maximum value and the other two values are at zero), while preserving the first color number (controlled accuracy, col. 4, ln. 47-51); image processing means (Fig. 4, processor 405) for performing image processing on the converted image data in

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the second color system (sRGB, Fig. 2C, col. 3, ln. 65-67); and reproductive color number reducing means (Module 3, reducing the size of the LUTs, col. 13, ln. 45-48) for reducing the reproductive color number (size of LUT) of image data subjected to the image processing (col. 13, ln. 45-48).

Regarding claim 2: Roberts satisfies all the elements of claim 1. Roberts further discloses wherein image processing performed by the image processing means (Fig. 4, processor 405) includes gamma correction processing (gamma function, col. 6, ln. 50-57).

Regarding claim 3: Roberts satisfies all the elements of claim 2. Roberts further discloses wherein the first color system is the YCC color system (YCbCr space, Fig. 2C, col. 4, ln. 6-12), and the second color system is the sRGB color system (sRGB, Fig. 2C, col. 3, ln. 65-67).

Regarding claim 4: Roberts satisfies all the elements of claim 1. Roberts further discloses wherein the second color number of the second color system (sRGB, Fig. 2C, col. 3, ln. 65-67) includes a color number represented by a negative value (it is an inherent feature of the sRGB color space that sRGB defines the red, green and blue primaries as colors where one of the three channels is at the maximum value and the other two values are at zero; zero is more negative than the maximum value) included in image data converted by the color converting means (Fig. 4, computer system 400) from the first color system (YCbCr space, Fig. 2C, col. 4, ln. 6-12) to the second color system (sRGB, Fig. 2C, col. 3, ln. 65-67).

Regarding claim 5: Roberts satisfies all the elements of claim 4. Roberts further discloses wherein image processing performed by the image processing means (Fig. 4, processor 405) includes gamma correction processing (gamma function, col. 6, ln. 50-57).

Regarding claim 6: Roberts satisfies all the elements of both claim 4 and 5. Roberts further discloses wherein image processing performed by the image processing means (Fig. 4, processor 405) includes color conversion processing using a second matrix operation (col. 7, items (e) and (f), matrices (3) and (4)).

Regarding claim 8: Roberts discloses first image processing means (Fig. 4, processor 405) for modifying a color value of the image data represented by an integral value (0-255) having first effective digits into a first value having a greater place number than the place number of the first effective digits (Fig. 3B and col. 14, ln. 9-13); tone number reduction preventing means (Module 3, reducing the size of the LUTs, col. 13, ln. 45-48) for preventing reduction of tone number of the image data accompanying modification of color value by the first image processing means (Fig. 4, processor 405); and second image processing means (Fig. 4, processor 405) for modifying the color values of image data having the first value (0-255) from the first value (0-255) to a second value (0-255) reflected in image output results (Fig. 4, processor 405 is connected to video interface 407 and video interface 407 is connected to video display 414; Examiner interprets this to mean that the value is modified according to the output device characteristics).

Regarding claim 9: Roberts satisfies all the elements of claim 8. Roberts further discloses wherein the tone number reduction preventing means (Module 3, reducing the size of the LUTs, col. 13, ln. 45-48) prevents reduction of tone number of the image data by means of setting the effective digits of the first value to a greater place number than the place number of the first effective digits (Fig. 3B and col. 14, ln. 9-13).

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Regarding claim 10: Roberts satisfies all the elements of claim 8. Roberts further discloses wherein the data size of image data (Module 3, reducing the size of the LUTs, col. 13, ln. 45-48) prevented by the tone number reduction preventing means (Module 3, reducing the size of the LUTs, col. 13, ln. 45-48) from tone number reduction is larger than the data size of image data represented by integers having the first effective digits (Fig. 3B and col. 14, ln. 9-13).

Regarding claim 11: Roberts satisfies all the elements of claims 8-10. Roberts further discloses wherein the first image processing means (Fig. 4, processor 405) is color space converting means for converting the color space of the image data from a first color space to a second color space (Fig. 1) (col. 16, ln. 7-31).

Regarding claim 12: Roberts satisfies all the elements of claim 11. Roberts further discloses wherein the color space converting means (Fig. 4, computer system 400) converts the color space of the image data from the YcbCr color space (YCbCr space, Fig. 2C, col. 4, ln. 6-12) to the RGB color space (Fig. 1 and Fig. 2A and 2C), and modifies a color value of the image data represented by integers having the first effective digits to the first value that includes a decimal point (Fig. 3B and col. 14, ln. 9-13, range of values, which includes decimal point numbers).

Regarding claim 16: Roberts satisfies all the elements of claim 1 and any of claims 8-12. Roberts further discloses output means (Fig. 4, printer 415) for outputting image data subjected to image processing (Fig. 4, processor 405) by the image processing apparatus (Fig. 4, computer system 400).

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Regarding claim 17: Arguments analogous to those stated in the rejection of claim 1 are applicable. A recording medium having stored thereon an image processing program is inherently taught as evidenced by computer system 400 and various memories stored therein.

Regarding claim 18: Roberts satisfies all the elements of claim 17. Arguments analogous to those stated in the rejection of claim 4 are applicable. A recording medium is inherently taught as evidenced by computer system 400 and various memories stored therein.

Regarding claim 19: Roberts satisfies all the elements of claim 18. Arguments analogous to those stated in the rejection of claim 6 are applicable. A recording medium is inherently taught as evidenced by computer system 400 and various memories stored therein.

Regarding claim 21: Arguments analogous to those stated in the rejection of claim 8 are applicable. A recording medium having stored thereon an image processing program is inherently taught as evidenced by computer system 400 and various memories stored therein.

Regarding claim 22: Roberts satisfies all the elements of claim 21. Arguments analogous to those stated in the rejection of claim 9 are applicable. A recording medium is inherently taught as evidenced by computer system 400 and various memories stored therein.

Regarding claim 23: Roberts satisfies all the elements of claim 22. Arguments analogous to those stated in the rejection of claim 10 are applicable. A recording medium is inherently taught as evidenced by computer system 400 and various memories stored therein.

Regarding claim 24: Roberts satisfies all the elements of claims 22 and 23. Arguments analogous to those stated in the rejection of claim 11 are applicable. A recording medium is inherently taught as evidenced by computer system 400 and various memories stored therein.

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Regarding claim 25: Roberts satisfies all the elements of claim 24. Arguments analogous to those stated in the rejection of claim 12 are applicable. A recording medium is inherently taught as evidenced by computer system 400 and various memories stored therein.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 7 and 13-15, 20 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts in view of Fushiki et al. (6,748,107).

Regarding claim 7: Roberts satisfies all the elements of claim 4. Roberts further discloses wherein the first color system is the YCC color system (YCbCr space, Fig. 2C, col. 4, ln. 6-12).

Roberts fails to specifically address a wide RGB color system.

Fushiki et al. disclose and the second color system is the wRGB color system (extended RGB) has a wider color representation range than the sRGB color system (col. 2, ln. 28-35).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to include a wide RGB as a second color system in order to increase accuracy as suggested by Fushiki et al. (col. 2, ln. 28-30).

Regarding claim 13: Roberts discloses first color space converting means (Fig. 4, computer system 400) for increasing the tone number of the image data from a first tone number to a second tone number (Module 3, reducing the size of the LUTs, col. 13, ln. 45-48), as well as converting the color space of image data from the YCbCr color space (YCbCr space, Fig. 2C,

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col. 4, ln. 6-12) to the sRGB color space (sRGB, Fig. 2C, col. 3, ln. 65-67); gamma correcting means (gamma function, col. 6, ln. 50-57) for performing gamma correction on the color space-converted image data; second color space converting means (Fig. 4, computer system 400) for converting the color space of gamma-corrected image data from RGB color space (Fig. 2C); tone number reducing means (Module 3, reducing the size of the LUTs, col. 13, ln. 45-48) for restoring tone number of the color space-converted image data from the second tone number to the first tone number (Module 3, reducing the size of the LUTs, col. 13, ln. 45-48).

Roberts fails to specifically address a wide RGB color system.

Fushiki et al. disclose wRGB color space having a wider defined range than the sRGB color space (extended RGB)(col. 2, ln. 28-35).

Regarding claim 14: Roberts in view of Fushiki et al. satisfy all the elements of claim 13.

Roberts further discloses inverse gamma correcting means (gamma function, col. 6, ln. 50-57 and Fig. 6) for performing inverse gamma correction on the color space-converted image data (backward indicator, col. 6, ln. 54-56); wherein the tone number reducing means (Module 3, reducing the size of the LUTs, col. 13, ln. 45-48) restores the tone number of the inverse gamma-corrected image data, rather than the color space-converted image data, from the second tone number to the first tone number (Module 3, reducing the size of the LUTs, col. 13, ln. 45-48).

Regarding claim 15: Roberts in view of Fushiki et al. satisfy all the elements of claim 14.

Roberts further discloses image correcting means (gamma function, col. 6, ln. 21-57, other types of colour operations, and Fig. 6) for automatically correcting quality of the inverse gamma corrected-image data (col. 6, ln. 36-57); wherein the tone number reducing means (Module 3, reducing the size of the LUTs, col. 13, ln. 45-48) restores the tone number of the quality-

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corrected image data, rather than the inverse gamma-corrected image data, from the second tone number to the first tone number (Module 3, reducing the size of the LUTs, col. 13, ln. 45-48).

Regarding claim 20: Roberts satisfies all the elements of claim 18. Arguments analogous to those stated in the rejection of claim 7 are applicable. A recording medium is inherently taught as evidenced by computer system 400 and various memories stored therein.

Regarding claim 26: Arguments analogous to those stated in the rejection of claim 13 are applicable. A recording medium having recorded thereon an image processing program is inherently taught as evidenced by computer system 400 and various memories stored therein.

Regarding claim 27: Roberts in view of Fushiki et al. satisfy all the elements of claim 26. Arguments analogous to those stated in the rejection of claim 14 are applicable. A recording medium is inherently taught as evidenced by computer system 400 and various memories stored therein.

Regarding claim 28: Roberts in view of Fushiki et al. satisfy all the elements of claim 27. Arguments analogous to those stated in the rejection of claim 15 are applicable. A recording medium is inherently taught as evidenced by computer system 400 and various memories stored therein.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charlotte M. Baker whose telephone number is 571-272-7459. The examiner can normally be reached on Monday-Friday 8:30-5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly A. Williams can be reached on 571-272-7471. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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MADELEINE NGUYEN
PATENT EXAMINER

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